

Notice of Allowability

Application No.

10/808,388

Applicant(s)

FINK, STEVEN T.

Examiner

Art Unit

Rudy Zervigon

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to August 16, 2007 phone interview.
2. ☒ The allowed claim(s) is/are 1-12, 19-21, 23-25, 27 and 28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20070818
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lee L. Stepina on August 16, 2007.

The application has been amended as follows:

IN THE CLAIMS:

Claim 1 (Currently Amended): A plasma processing device comprising: an inject plate including a first hole with a first diameter; an upper electrode including a second hole with a recessed area having a second diameter larger than the first diameter; and a hybrid ball-lock device configured to removably secure the inject plate to the upper electrode by expanding into the recessed area, wherein a boundary of the recessed area is formed by a lower electrode formed separately from the inject plate, and wherein the boundary is a portion of a seam formed between the upper electrode and the lower electrode.

Claim 2 (Original): The plasma processing device of claim 1, wherein the hybrid ball-lock device comprises an actuating hybrid ball-lock device.

Claim 3 (Original): The plasma processing device of claim 1, wherein the hybrid ball lock device comprises an actuating hybrid spring-plunger device.

Claim 4 (Original): The plasma processing device of claim 1 wherein the hybrid ball- lock device comprises a ceramic head.

Art Unit: 1763

Claim 5 (Original): The plasma processing device of claim 1 wherein the hybrid ball- lock device comprises a silicon head.

Claim 6 (Original): The plasma processing device of claim 1 wherein the hybrid ball- lock device comprises a quartz head.

Claim 7 (Original): The plasma processing device of claim 1 wherein the hybrid ball- lock devices comprises an anodized aluminum head.

Claim 8 (Original): The plasma processing device of claim 1 wherein the hybrid ball- lock device comprises a metallic head.

Claim 9 (Original): The plasma processing device of claim 6 wherein the head is coated with a ceramic material.

Claim 10 (Original): The plasma processing device of claim 1, wherein the hybrid ball-lock device comprises a CRES fastener housing.

Claim 11 (Original): The plasma processing device of claim 1 wherein the hybrid ball-lock device or threaded shaft is removably connected to a release button.

Claim 12 (Original): The plasma processing device of claim 1, wherein the hybrid ball-lock device comprises at least one retaining ball.

Claims 13-18 (Canceled).

Claim 19 (Previously Presented): The plasma processing device claim 1, further comprising a process chamber in which the inject plate is removably secured by the hybrid ball-lock device, and the inject plate is configured to accept insertion to the ball-lock device from inside the process chamber.

Art Unit: 1763

Claim 20 (Previously Presented): The plasma processing device of claim 19, wherein the second hole is a blind hole.

Claim 21 (Previously Presented): The plasma processing device of claim 19, wherein the hybrid ball-lock device comprises a spring with an axis oriented perpendicular to an axis of the second hole and configured to push a ball into the recessed area.

Claim 22 (Cancelled):

Claim 23 (Previously Presented): The plasma processing device of claim 22 1, wherein the lower electrode is disposed directly between the upper electrode and the inject plate.

Claim 24 (Previously Presented): The plasma processing device of claim 23, wherein the lower electrode includes a third hole axially aligned with axes of the first and second holes.

Claim 25 (Previously Presented): The plasma processing device of claim 24, wherein the third hole has a third diameter smaller than the second diameter.

Claim 26 (Cancelled):

Claim 27 (Previously Presented): The plasma processing device of claim 26 1, wherein the seam is sealed by a compressible seal so as to prevent gas leakage between a process chamber of the plasma processing device and an area outside the process chamber.

Claim 28 (Previously Presented): The plasma processing device of claim 221, wherein a button of the hybrid ball-lock device comprises a getter material.

Allowable Subject Matter

2. Claims 1-12, 19-21, 23-25, 27, and 28 are allowed.

3. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art to the claimed hybrid ball-lock device securing two plasma electrodes as

Art Unit: 1763

claimed above is to Serra (USPat. 3684303) which is fully contrasted with the pending claims in the November 22, 2006 action. Further, as stated in the January 31, 2007 interview, the Examiner deemed the subject matter of then dependent claim 26 as containing allowable subject matter.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (571) 273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

Rudy Zervigon
8/20/7